

U.S. Department of the Interior  
**International Technical Assistance Program**  
Completed Projects Report

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## **Bangladesh**

DOI-ITAP has studied the causes of arsenic groundwater contamination in the Bengal Delta, including Bangladesh and parts of India. Arsenic contamination in the shallow groundwater of the Bengal Delta in Bangladesh and West Bengal, India, is now recognized as the most significant water-related health crisis in the world, affecting perhaps as many as 40-60 million people. Presently, the primary solutions to the arsenic problem in Bangladesh and West Bengal are avoidance and treatment. DOI-ITAP worked to understand the geology, hydrology, and geochemistry of the contaminated delta sediments in order to address existing conditions and evaluate water management alternatives, including remediation of contaminated shallow aquifers and development of deeper aquifers.

## **Bolivia**

DOI-ITAP coordinated with USAID/Bolivia to provide CITES training to some thirty representatives from relevant Bolivian agencies, including the scientific authority, immigration, national police and interpol. The 1972 CITES convention addresses threats to plant and animal species where international trade in products from such species is a major factor in their decline. By regulating or prohibiting the trade in these products, CITES provides a powerful tool for species protection. The training was considered a major success and generated some change. A committee made up of the armed forces, police and customs was started to properly handle biodiversity issues, with a special emphasis on wildlife.

*Funding: USAID/Global Bureau*

## **Brazil**

A Partner Parks relationship was established in October 1997, between Brazil's Pantanal National Park and Everglades National Park during the Presidential summit.

### **Key Results:**

- Four representatives from the Government of Brazil participated in an introductory study tour of the Everglades National Park, focusing on park management, law enforcement, facilities management, ecotourism, ecosystem management and community relations.
- A team of two Everglades park rangers traveled to Brazil to assess the Pantanal's current park law enforcement capabilities and introduce to park staff some methods of improving park patrols.
- A team of two Brazilian officials traveled to Everglades National Park for one week to work on Pantanal public outreach and information materials. The two representatives were introduced to public affairs processes and capabilities in the Everglades and were trained in how to use selected software for producing public information materials. They returned to Brazil with a prototype visitor information brochure that they produced with Everglades public affairs staff; they also took with them Everglades publications on environmental education, interpretive programs and training curricula for use as model documents.

*Funding: USAID/Global Bureau and USAID/Brazil*

## Croatia

Croatia is endowed with internationally recognized natural and cultural assets. After its independence from Yugoslavia in 1991, however, Croatia endured regional conflicts that devastated the economy and accelerated emigration. Before the current government took office in February 2000, conservation of natural resources was seen more as a responsibility of local authorities than as a national duty. This has changed. Today Croatia has, for the first time, a Ministry of Environmental Protection and Physical Planning with a Nature Conservation Division that has responsibility for protected areas, and is building a professional staff of park managers.

After a World Bank-funded assessment trip to Croatia and a study tour by Croatian park officials to the U.S., DOI-ITAP and the Croatian Ministry of Environmental Protection and Physical Planning signed an Agreement to cooperate on the management of protected areas. USAID/Croatia suggested that a practical training program be designed in Plitvice and Paklenica National Parks that would implement critically needed park programs and provide job skills training and temporary employment (the country's current unemployment rate is 22%) to 20 interns of diverse ethnicity from these war-affected regions. In FY 2001, DOI-ITAP provided training in several aspects of park management at the two parks.

In FY 2002, USAID asked DOI-ITAP to continue its work at three additional parks: Mjlet National Park, Krka National Park, and Lonjsko polje Nature Reserve.

### Key Results:

#### **Interpretive Training/Intern Program**Error! Bookmark not defined.

Lonjsko polje Nature Reserve: A 10-week interpretive training program was completed at Lonjsko polje Nature Reserve. Among the accomplishments:

- The interns produced interpretive posters on: "Storks and People—Neighbors without borders"; and "Harmony between People and Nature".
- The interns also produced a 27-page Teachers Guide, designed and built two trails through the Reserve, and wrote and illustrated trail guidebooks in Croatian and English.

Krka National Park: A 10-week interpretive training program was completed at Krka National Park for 20 interns and the permanent staff of the park. Among the accomplishments:

- Interpretive panels were produced on: wildlife along the River Krka, travertine, mill and grinding, the Church of Travertine, a historic hydro plant, the Emperor's Balcony, and cloth weaving.

- A large orientation map was produced for the entrance to the park and a Junior Ranger book for children was published.

Mljet National Park: A 10-week interpretive training program was completed at Mljet National Park for 20 interns and the permanent staff of the park. In addition, interpretive panels were produced on: St. Mary's Island, the palace and the palace site, Govedari town, Montokuc overlook, Veliki Gradac overlook, Little Lake, Soline Channel, and the monastery on St. Mary's Island.

Plitvice Lakes: A 10-week interpretive training program was completed at Plitvice Lakes National Park for 10 interns and the permanent staff of the park. Among the accomplishments:

- Twelve sites were selected for interpretation. Twelve posters were then researched, designed and produced by the interns and approved by the Park's staff.
- A "Junior Ranger" Activity Book was prepared for children with the advice of a local teacher.
- A rough draft of a Teacher's Guide was prepared for teachers to enhance learning during school visits to the Park.
- Trail markers were produced for a loop trail to increase visitor interest and understanding of the resources.

Paklenica National Park: A 10-week interpretive training program was completed at Paklenica National Park for 10 interns and the permanent staff of the park. Among the accomplishments:

- Visitor and community assessment surveys were conducted to determine what was liked about the park and areas for improvement.
- A trail was designed and marked to the old fortress and a viewpoint was created that allows for an interpretive exhibit.
- Two interpretive viewpoint exhibits were researched and designed for the fortress trail that describes the cultural and historical importance of the area.
- A brochure was developed to interpret the uniqueness and special beauty of the Park's caves. Technical explorations were made of many caves and pits with digital photo documentation.

## **Equipment Provided to the Parks**

All Parks: Critical equipment and supplies were provided to the parks, including audio-visual technology for visitor centers, telescopes, microscopes, binoculars, and natural history field guides.

*Funding: USAID/Croatia*

## **Ecuador – Galápagos Island Equipment**

Galapagos National Park includes one of the largest marine reserves in the world, covering approximately 133,000 square kilometers. As a UNESCO World Heritage Site, Galapagos National Park is recognized internationally as one of the most ecologically important and unique aquatic ecosystems in the world.

Conservation of Galapagos National Park remains a major challenge. Conflicts in recent years between fishermen and local conservation authorities have led to fierce rhetoric and violent action, and pressures from powerful stakeholder groups can dominate decision-making at the expense of conservation and responsible resource management. Endangered species such as sea cucumber and lobster are being exploited to the point of local extinction, and the national government and Galapagos Park authorities are hard-pressed to enforce regulations with limited budgets and capabilities. There are also circumstances of trafficking between the islands and other countries in chemical precursors for drug production. At the same time, this is an economically strategic part of the country, providing a large share of Ecuador's tourism income.

DOI-ITAP signed an Interagency Agreement with USAID/Ecuador to provide, on behalf of USAID/Ecuador, technical support for enforcement activities. Under this agreement, DOI-ITAP was tasked with purchasing specialized equipment to be used in enforcement and monitoring activities in the Galapagos Islands.

### **Key Results:**

#### **Assessment and Planning**

Needs Assessment: DOI provided a law enforcement special agent to assess law enforcement equipment needs in the Galapagos and to draft a plan of action for acquiring the equipment and training protected area staff on the use and maintenance of this equipment.

#### **Equipment Procurement**

Seawolf amphibious plane: After extensive research, DOI determined that the Seawolf was the ideal plane for Galapagos law enforcement. The Seawolf is the only single engine, boat hulled, and amphibious aircraft in the world that is approved by the Federal Aviation Administration. Unlike any other light aircraft, the Seawolf is especially constructed to be used in the saltwater environment. A contract was awarded in January 2003 to Lake Aircraft to custom-build this plane for Galapagos National Park. The plane construction was completed and a Galapagos National Park pilot and mechanic were trained in the specific use and maintenance of the plane. The plane was delivered to the Park and donated during a ceremony with the U.S. Ambassador to Ecuador.

Retrofitting the Guadalupe River: The Guadalupe River is a 100-foot aluminum vessel used by Galapagos National Park to conduct short and long-term law enforcement patrols, ferry employees and supplies among the many islands of the archipelago, and

conduct scientific research. This is a crucial piece of equipment to the Galapagos National Park and its safe and efficient operation is paramount to successful operations there. DOI awarded a contract to Seacraft Shipyard Corporation to repair and retrofit the Guadalupe River in March 2003. The retrofitting was completed and the Guadalupe River returned to the Galapagos in August 2003.

Field Equipment: DOI procured six sets of camping equipment to enable Park Guards to set up temporary base camps for remote surveillance of protected areas. The equipment was shipped to the Park aboard the Guadalupe River. Two aluminum boats were purchased for the Park and were shipped to the Park aboard the Guadalupe River as well.

*Funding: USAID/Ecuador*

## Guatemala

The 1.5 million hectare Mayan Biosphere Reserve, located in the northern Department (state) of El Petén, forms the core of the largest tract of intact tropical forests remaining in Meso-America. This area is one of the most important regions in the world in terms of biological diversity. DOI worked closely with the USAID/Guatemala office and the Guatemalan protected area management agency, Consejo Nacional de Areas Protegidas (CONAP), to strengthen protected area management in the Mayan Biosphere Reserve.

DOI technical assistance in the Reserve was designed to promote and enhance coordination among managing entities within the Reserve and enhance coordination, interaction, and cooperation between U.S. and Guatemalan protected area staff. This program of technical assistance in the Mayan Biosphere Reserve was designed to help CONAP develop model strategies that may be extended throughout Guatemala's protected area system.

DOI technical assistance was also provided in other geographic areas of the country, including the Volcanoes of Atitlán, located in the western highlands, the Polochic-Motagua wildlife area in the eastern lowlands, and the Chisec area in northern Alta Verapaz.

Due to the consolidation of USAID functions worldwide, the USAID/Guatemala office was closed on September 30, 2004, with future Guatemala assistance to be provided by the USAID Central American Regional office (USAID/G-CAP).

### Key Results:

#### **Tourism, Visitor Services, and Interpretation**

Trail and Tourism: Two teams of DOI representatives provided technical assistance at two significant and largely undeveloped protected areas in Guatemala to advise on how best to further develop the two protected areas in a way that would attract more visitors and offer improved visitor experiences in a sustainable manner. The two sites, the Sierra de las Minas National Park, a high mountain range that culminates in extensive cloud forests, and "Bocas del Polochic," a tropical river delta, are adjacent to each other and, together, boast among the highest biodiversity in Central America. Further, "Sierra de las Minas" serves as the primary watershed for potable water for the country. DOI-ITAP worked with staff of the Guatemalan Parks Service (CONAP), The Nature Conservancy (who co-manages these two sites with CONAP), and other smaller non-governmental organizations to ensure that the best recommendations were provided.

Lake Atitlán Community Tourism: Two DOI staff worked with a Guatemalan nongovernmental organization (NGO) and local community leaders in several towns of the Lake Atitlán region, to improve interpretative trails for tourists. The trails under development, all community managed, focus on the anthropology, biological resources, geological resources, and textiles of the area. One nature trail goes up to the summit of San Pedro Volcano. Other trails focus on particular cultural highlights (e.g., growing and processing organic coffee, learning about alternative medicines, subsistence fishing on

the lake, etc.). The team came up with many design and visitor management recommendations which were formally presented to the community leaders and the NGO.

## **Law Enforcement**

A series of four security workshops were conducted to address the Mayan Biosphere Reserve security situation in the Petén Region. DOI-ITAP law enforcement experts and Colombian National Parl law enforcement specialists jointly advised Guatemalan park staff, Guatemalan military, and representatives from various local nongovernmental organizations on various methods for addressing the numerous security threats in the region, which include illegal extraction of timber, wildlife, and archaeological resources, in addition to ever-increasing drug and human trafficking. A “Strategy to Strengthen the Governance and Environmental Management of Protected Areas of the Petén Region” was submitted to several high level members of the Guatemalan government, including the Ministers of the Environment, Defense, and Governance, among others.

## **Cultural Resources**

A DOI archaeologist joined a team of USAID and NGO resource managers to evaluate the quality of the protection of the archaeological resources that are under the jurisdiction of community-managed concessions within the Mayan Biosphere Reserve. These communities have been granted the rights to sustainably extract the natural resources (e.g., timber, rubber, xate) from a specifically designated area, an area that also contains many explored and unexplored ancient Mayan archaeological sites. Through this evaluation, it was determined that the archaeological resources have been relatively well protected, similar to the natural resources, due to the interests granted to these communities.

## **Fire Management**

Radio System: DOI purchased and delivered to the Peten region four (4) Base Radios, sixteen (16) Portable Radios, three (3) solar panel systems to power these radios and other accessories (antennas, cables, telescopic poles, etc.) to be used to improve their existing communications system. Improved communications is critical for effective fire response, law enforcement activities, and search and rescue missions.

Weather Stations: DOI purchased and delivered to the Peten region ten (10) portable weather stations to be used to monitor changing weather conditions in an effort to better respond to fires within this region. The weather stations delivered include various accessories, such as solar panels, mounting tripods, weather link downloader, and necessary software and palm personal data assistant for data downloading and manipulation.

Fire Management Evaluation: A DOI fire ecologist, with the assistance of the DOI-ITAP Central American Fire and Pest Management Program Manager, conducted a rapid assessment of the existing fire management program at the Sierra de las Minas National Biosphere Reserve and held a series of meetings and trainings with the local staff in order

to prepare them further for the upcoming fire season. Previously, U.S. Forest Service staff had worked intensively with the Biosphere staff for a number of years to help improve their fire management capabilities. While the DOI-ITAP team concluded that the Reserve staff has a good understanding of the primary issues facing them and has developed a solid integrated strategy to address these issues -- well ahead of most protected areas in Guatemala -- significant challenges were identified for the management of long-term ecological effects of high fire incidence. DOI-ITAP recommended additional training and planning that would help meet these challenges.

Incident Command System, Fire Control, and Prescribed Burning Training: A team of three DOI fire fighters trained more than 30 Guatemalan fire fighters in the Petén Department on: the Incident Command System, fire control and prescribed burnings. This training helped to prepare the Guatemalans for the fire season one month later.

Fire Fighting in Macaw Nesting Area: At the request of USAID/Guatemala, DOI contracted, on an emergency basis, a local non-governmental organization, the Wildlife Conservation Society (WCS), to hire and combat extensive wildfires that threatened a sensitive scarlet macaw nesting area, located within the Laguna del Tigre National Park. WCS had been monitoring the reproductive success of the macaws in this area (comprising 80 percent of the macaw nests known in Guatemala) as a key indicator of the ecological integrity of this protected area. As a result, WCS successfully prevented the fires from destroying this area, despite the long and damaging fire season experienced throughout Guatemala in 2003.

Fire Prevention Planning and Educational Materials: Six key mid- to upper-level Guatemalan managers that have a role in fire management for the entire country worked with two DOI fire management staff on developing Guatemala's first fire prevention and education materials to initiate a nationwide fire prevention campaign.

Basic Fire Fighting Training: Thirty Guatemalan Mayan Biosphere Reserve fire fighters were trained by DOI fire management experts on the basics of fire suppression and control, and health and safety.

Fire Fighting Organization and Emergency Response Training: Fifteen mid-level Guatemalan managers that have a role in fire management within the Mayan Biosphere Reserve were trained on the Incident Command System (ICS). ICS is the system used by the U.S. to properly organize and allocate resources to maximize fire fighting effectiveness and efficiency.

Fire Management Study Tour to U.S.: A Fire Management Study Tour was conducted at the U.S. National Interagency Fire Center (NIFC) in Boise, Idaho. The 16 Guatemalan government officials participating in the study tour learned about U.S. approaches to fire management, including organizational, technical, budgetary, educational, and restoration issues.

## **National Resources Management**

Golden-Cheeked Warbler Study Tour: Four managers from two Guatemalan protected areas conducted a study tour to three protected areas in central Texas, visiting sites managed by Federal, State, and City governments. Of special interest was an exchange of information about the threats to the habitats of the Golden-Cheeked Warbler, a shared endangered species, breeding in Texas and wintering in Guatemala. The participants were also very interested in establishing a "sister protected areas" relationship between the Sierra de las Minas National Park in Guatemala and the Balcones-Canyonlands National Wildlife Refuge in the U.S. The two countries agreed to assist each other in the development of their respective habitat restoration plans over the next several years, in addition to seeking opportunities to conduct joint studies of this species.

Inventory in Alta Verapaz Department: At the request of USAID/Guatemala, DOI contracted with the Wildlife Conservation Society (WCS) to continue an on-going biological inventorying and monitoring project in the Chisec area, located in the Alta Verapaz Department, just south of the El Peten Department. WCS completed its work in December 2002 and drafted its results in the report entitled, "Description and Critical Assessment of Habitat and Connectivity in Municipio Chisec, Evaluating Long-term Viability for Maintaining Populations of Jaguar".

## **Planning and Design**

Public Use Plan: A team consisting of a DOI landscape architect and a DOI mechanical engineer completed a Public Use Plan for the Semuc Champey Natural Monument, located in Alta Verapaz. The team conducted a wide evaluation of the carrying capacity and existing infrastructure designs. In addition, they conducted numerous interviews, field visits, etc. to best recommend how this fragile site can best be developed sustainably in light of growing popularity. The team worked with INGUAT (the Guatemalan Tourism Ministry) the local town leaders, CONAP (the Guatemalan National Parks Service), and a U.S. Peace Corps Volunteer assigned to this site, to draft the Public Use Plan. The Plan recommended a much lower carrying capacity than previously proposed and detailed recommendations for visitor services, including low-impact trails and low-tech solid waste disposal, ideal for this remote location. Through the continued contact with the Peace Corps Volunteer, many of these recommendations were implemented.

Follow-up Design Revisions and Finalization: DOI provided on-site assistance to finalize construction designs for park staff housing and ranger stations at the Sierra del Lancandon National Park. DOI expertise was particularly significant in designing low-tech systems for potable water, wastewater management, solid waste disposal, and energy needs in these remote locations, using locally-available materials. The park constructed and/or rehabilitated the structures designed and specified by the DOI and Guatemalan team.

Design of Park Ranger Station and Park Staff Housing: A DOI architect and a DOI engineer worked with Guatemalan architects to plan for and draw designs and specifications for park staff housing and ranger stations at Sierra del Lancandon National

Park. The DOI staff continued assisting their Guatemalan counterparts after the trip, providing much technical information, calculations, and further revisions to drawings and specifications.

## **General Protected Area Management**

New U.S.-Guatemala Sister Parks Established: Four high-level Guatemalan park officials, including the Director of CONAP (Guatemalan Park Service), completed a 3-day study tour at the Big Cypress National Preserve. During the visit, major park management strategies and challenges were exchanged. On the final day, a ceremony was held for the signing of the new "Sister Park Understanding" between Big Cypress National Park and Guatemala's Laguna del Tigre National Park.

Natural, Cultural and Social Resources: A DOI-ITAP expert participated in a meeting held in New Mexico to determine how best to manage the natural, cultural, and social resources in and around the El Peru/Waka Mayan archaeological site, located within the Laguna del Tigre National Park in Guatemala. Representatives from various Guatemalan government agencies, U.S. universities, local communities, and non-governmental organizations gathered at this meeting to develop a long-term multidisciplinary partnership and an action strategy to move forward with "one voice". The meeting identified DOI-ITAP as an obvious technical partner for assisting with the site's development for sustainable tourism, including management planning, infrastructure and interpretation.

Cave Management: A DOI-ITAP cave expert provided technical assistance for low-impact and community-based management of a series of caverns in Guatemala's Alta Verapaz region. DOI-ITAP provided specific recommendations on how tourists should be managed through each cave, interpretation strategies, and health and safety issues. Immediate results include the trail improvement that the community undertook during this trip following DOI-ITAP's exact specifications. This DOI-ITAP visit coincided with Guatemala's "First International Symposium on Cave Tourism," where experts were brought in from Italy, Costa Rica, and the U.S. to work with Guatemala's growing number of geology and cave experts. At the Guatemalan government's request, the DOI-ITAP cave expert made a presentation on DOI's "Leave No Trace" program.

Critical Habitat Assessment: A DOI-ITAP resource manager provided technical assistance to the Punta de Manabique National Park, a marine park along the Gulf Coast of Guatemala. DOI-ITAP collaborated with a local non-governmental organization, Fundaparque, successfully mapping key areas of the park that composes critical habitat for the Saltwater Crocodile, an endangered species with very limited range worldwide. DOI-ITAP also provided Fundaparque recommendations on activities that would improve the survival of this species through the protection of this vulnerable habitat.

Park Management Study Tour to U.S.: Nine high- and mid-level Guatemalan park officials completed a study tour of four DOI sites within the U.S. As a result of this study

tour, the Mayan Biosphere Reserve established a sister park relationship with Big Cypress National Park.

Evaluation of Laguna del Tigre Park Status: DOI-ITAP assisted a team of USAID/Guatemala staff in assessing whether USAID/Guatemala should continue funding the management of the Laguna del Tigre National Park and, if so, how to do so most effectively. The team recommended that assistance to the park continue, and USAID/Guatemala continued to provide assistance to the new team of park staff.

Long-term Park Management Training to Guatemalan Park Officials: Two CONAP (Guatemalan Park Service) officials from the Mayan Biosphere Reserve completed a 2-month training program for protected area managers entitled Wildland Management in the Tropics. The training was held in Costa Rica and focused on hands-on, practical field training.

## **Policy**

DOI-ITAP helped the Government of Guatemala map out the roles and responsibilities of the various agencies that deal with the environment and natural resources in Guatemala, including the newly established Ministry of the Environment and Natural Resources.

*Funding: USAID/Guatemala*

## **Honduras – Río Plátano Biosphere**

The Río Plátano Biosphere Reserve is a World Heritage Site and the first and largest UNESCO-designated Man and the Biosphere Reserve (1980) in Central America. The 815,000-hectare Reserve is the largest protected area in Honduras and part of the largest contiguous rain forest in Central America. In 1995 almost nine-tenths of the Reserve were intact, not yet having experienced the deforestation, intensive farming, over-exploitation of fish and wildlife, and human population growth that had damaged much of the region. The 215,000-hectare core zone of the Reserve has become inhabited only recently.

DOI-ITAP worked to protect the indigenous peoples and the biological diversity of the Río Plátano Biosphere Reserve, one of twenty-two international sites on the List of World Heritage in Danger. DOI-ITAP worked with Mosquitia Pâwisa (MOPAWI), a non-profit organization that assists the social and economic development of the peoples of the Mosquitia Region of Honduras. DOI-ITAP also worked with Peace Corps and the Administración Forestal del Estado (AFE) which was responsible for the management of the Reserve. The Ministerio de Haciendas y Crédito Público, Secretario de Planificación, Coordinación y Presupuesto, and the Economics Section of the U.S. Embassy provided assistance and oversight.

The main threats to the Reserve are illegal human intrusions and settlement across its western and southern boundaries. Although estimates of the number of intruders vary, by 1996 squatters and commercial developers had deforested almost one-tenth of the Reserve and had established plantations in the Reserve's core zone. In 1995 the National Congress had not yet ratified the boundaries of the Reserve. In addition, AFE had no permanent staff in the Reserve and lacked the resources to monitor or curb illegal activities.

As the DOI-ITAP work began, MOPAWI, Peace Corps and World Neighbors were the only nationally or internationally-recognized organizations active in the Reserve. World Neighbors worked in the intrusion zone of the Reserve. MOPAWI (funded in part by USAID) and Peace Corps worked cooperatively in the indigenous zone of the Reserve while DOI-ITAP worked to promote the conservation of biological diversity by direct actions in the indigenous zone of the Reserve and by helping the Government of Honduras to establish administrative controls throughout the Reserve.

### **Key Results:**

#### **Economic Development**

- DOI-ITAP helped establish the first two lending banks in the Reserve, the only local sources of business loans, and training in business and home financial management. MOPAWI then established 7 additional lending banks in the Reserve.
- DOI-ITAP helped create more than 90 family-owned businesses in 14 Miskito, Pech and Garífuna villages. In 2001 these businesses generated \$85,000 in income, or 12 percent of the income in these villages. MOPAWI then created an additional 330 family-owned

small businesses. In 2004 these businesses employed 256 permanent employees and generated \$230,000 in income.

- DOI-ITAP helped establish a farm to export live butterflies to foreign zoos and exhibits. During its first year of operation (1997) the farm generated \$7,500. MOPAWI then created 460 farms for the organic production of cocoa. In 2004 these farms had almost 500 acres under production and generated \$330,000 in income.

## **Tourism**

- DOI-ITAP helped create the first tourism infrastructure in the Reserve. By the time the DOI-ITAP program in Honduras ended, 12 Miskito, Pech and Garífuna villages had created visitor food, lodging, bathing and restroom facilities. Three additional Reserve villages, Raistá, Brus Laguna, and Belén, now equal Las Marías in offering full tourism services. Two villages, Palacios and Banaka, have become secondary tourism centers.
- DOI-ITAP promoted the Reserve as a tourist destination. DOI-ITAP published a 41-page visitor guide and wrote articles that appeared in national and international publications. Visitation to the village of Las Marías, in the interior of the Reserve, increased from 280 in 1995 to 1,350 in 1998, and by 2001 had increased per capita income by 35 percent.

## **Community Participation**

- DOI-ITAP initiated a community-based marine turtle conservation project. Poaching of turtle eggs in the 9-mile-long project area declined from 100 percent in 1995 to 26 percent in 2000. As of 2004, the community-based marine turtle conservation project had rescued more than 10,900 hatchling leatherback, loggerhead and green sea turtles from poachers and released them to the sea. In 2005 722 village members worked on the project. More than 1,500 students and 360 adults visit the project annually to receive conservation training. This community initiative has received external financial support for 11 years and has developed full capabilities for financial and operational management.
- DOI-ITAP developed and provided training on cost-effective methods to reestablish native red mangrove forests. Three villages around Ibans Lagoon (19,800 acres) have established 5 experimental red mangrove forests. All villages around Ibans Lagoon have banded together to develop a cooperative strategy to manage cattle and agricultural activities, mangrove restoration and other resources of the lagoon.
- DOI-ITAP provided training on sanitation, water quality and disease prevention. Water contamination from latrines has ended. Water quality in Ibans Lagoon, a primary source of bathing and washing water, has visibly improved. Incidence of Cholera and other diseases have declined. Villages have improved trash cleanup and disposal, and have begun recycling glass and plastic.

## **Local Capacity Building**

- Even though MOPAWI had only 9 employees and limited technical capabilities, DOI-ITAP chose MOPAWI as its leader and provided extensive training and support to strengthen its capabilities. MOPAWI currently employs 34 full-time staff, in 4 offices and works in 8 programs, including conservation, public health, reduction of child labor and economic development. Its annual operating budget exceeds \$890,000. In 2002, MOPAWI received the UNDP's Certificate of Excellence for its work "towards the conservation of biodiversity and the reduction of poverty." MOPAWI is the primary source of organizational, financial and logistical support for the peoples of the Honduran Mosquitia.
- DOI-ITAP provided training in strategic planning, decision-making, negotiation, conflict resolution, communication and uses of technology to a variety of local community, educational, political and trade organizations in the Reserve. Through organizational strengthening, indigenous peoples played significant roles in preventing the construction of a dam in the Mesoamerican Biological Corridor, developing a legal instrument to prevent the loss of primary rain forests and reducing the illegal trafficking of timber, flora, fauna and archeological specimens.
- In 2005 RAYAKA, the primary political organization representing indigenous people of the Honduran Mosquitia and one of the first organizations trained by DOI-ITAP, ran its first candidate for national office
- DOI-ITAP helped to organize the 86 public school teachers in the Reserve into a teachers' cooperative and supplied them with Spanish-language teaching materials.
- Since the DOI-ITAP, middle schools for 1,500 students were established in Cocobila and Plaplaya. These joined the only existing middle school (2,000 students) in Brus Laguna, increasing the number of students in the Reserve who can receive a middle school education by 75 percent. The teachers' cooperative helped to establish ECOS-Río Plátano, a nonprofit organization that, to date, has provided more than \$13,000 in scholarships so that students in the Reserve can complete their high school and professional educations. Five villages have begun programs under the Tutorial Teaching System which focuses on adult education and community development. They have begun projects on reforestation, vegetable and poultry production and sanitation.
- Through DOI-ITAP work, AFE offered renewable, 40-year land use rights to the indigenous villages of the Honduran Mosquitia, including the Reserve; an unprecedented offer to help control squatting and other illegal land uses. A 40-year rights agreement handed control of a 169,000-acre tract of forest to the Tawahka people and a legal entitlement to 5 Tawahka villages to use 17,400 acres of land for agriculture. These villages also gained responsibility for the protection of 570,000 acres of their ancestral territories through the declaration of the Tawahka Biosphere Reserve. Based on a DOI-ITAP model, AFE offered 40-year land use rights to indigenous villages throughout the Honduran Mosquitia. AFE also developed the legal framework to grant land titles to indigenous villages. These titles, which would be held by indigenous communities and

would not be transferable, would greatly strengthen the abilities of indigenous peoples to prevent the illegal takeover of their traditional lands.

### **Endangered Species Conservation**

- DOI-ITAP played a critical role in defining the boundaries of the Río Plátano Biosphere Reserve and expanding its size from 1.3 million acres to more than 2 million acres. DOI-ITAP also established the first telecommunications network in the Reserve to assist law enforcement and management.
- DOI-ITAP provided training on techniques to restore red mangrove forests along Ibans Lagoon and begin a community-based green iguana conservation project in Brus Laguna. In 2005 the village of Brus Laguna began its 8th year of operating a communal reserve to protect green iguanas. The 10,000-acre Reserve is divided into three management areas, of which only one is open to hunting during any year. The village handles all financial, management, enforcement and monitoring operations.
- DOI-ITAP enabled the Honduras Fisheries Administration (DIGEPESCA) to begin law enforcement actions in the Reserve.

### **Women in Development**

- Women operated about 75 percent of the family-owned businesses created as a result of DOI-ITAP training. All of the 330 family-owned small businesses created since 2001 are owned and operated by women. In addition, to qualify for loans and financial training, loan recipients must have all of their school-aged children enrolled in school.
- Women occupied 6 of the 7 positions on the marine turtle conservation committee and comprised 60 percent of the approximately 100-member project staff. The marine turtle conservation project, which is the most credible community-based project in the region, still is operated by, and benefits primarily, women.

*Funding: PROARCA/CAPAS and USAID/Washington*

## **India**

DOI-ITAP provided equipment -- primarily radio telemetry equipment for elephants-- to assist in assessing the impact of human activities on ungulate populations in Rajaji-Corbett National Parks. The data gathered will be used to identify mini-core areas for protection to maintain the biological integrity of the area, and provide recommendations for eco-restoration and effective management.

*Funding: USAID/Global Bureau*

## **Indonesia – Coal Seam Fire**

The Department of the Interior's Office of Surface Mining provided technical assistance to:

- Build the capacity of the Indonesian Ministry of Energy and Mineral Resources to respond quickly to coal seam fires -- particularly those that present a threat to human health and safety, the environment, other resources, and infrastructure; and
- Assist in establishing a long-term capability within the Ministry of Energy and Mineral Resources to respond to coal fires.

### **Key Results:**

#### **Fire Management**

- Before the project started in October 1998, no real effort was being made to put out coal fires. DOI-ITAP provided extensive training to help the Ministry put out the fires - 79 of which were in East Kalimantan.
- Fifty-six of the fires DOI-ITAP helped put out were in the Sungai Wain Nature Reserve area that is a release area for rehabilitated orangutans. DOI-ITAP taught appropriate personnel methods of suppression that would minimize disruption of the habitat.
- Indonesian and Malaysian instructors provided direct input into the development of coal seam fire suppression training which would best meet local needs and reflect local conditions. American, Malaysian, and Indonesian instructors jointly taught the courses.

#### **Policy**

- The Coal Seam Fire Project contributed directly to establishing linkages between the regional Ministry offices (Kanwils) and the provincial and local governments that helped identify and locate coal seam fires.
- DOI-ITAP helped the Ministry of Energy and Mineral Resources start and maintain an inventory of active coal fires.
- A permanent source of funding has been identified for coal seam fire suppression from the Ministry of Energy and Mineral Resources Coal Royalty program.
- The East Kalimantan Kanwil was the first to implement decentralized coal fire suppression. The East Kalimantan experience serves as a useful model for the Ministry as it proceeds with its response to the national legislation that mandates the transfer of program responsibilities from Jakarta to regional and local arms of the Ministry and to regional and local government.

*Funding: EAPEI*

## **Jamaica**

The Mines and Geology Division, Ministry of Land and Environment is the government agency with the responsibility for understanding Jamaica's geological resources and directing the orderly development of the country's mineral industry, ensuring that activities proceed in accordance with mining legislation and in harmony with the environment. The Mines and Geology Division functions to license, monitor and regulate all mining and quarrying activities on the island and to carry out investigations and mapping of the country's geological resources.

The Mines and Geology Division relationship with DOI-ITAP was initiated with a request for assistance with training of mining inspectors.

### **Key Results:**

An OSM representative and a Pennsylvania State representative provided a 1-week training course, from November 17–21, 2004, to 20 Jamaican government personnel in proper use, handling and transportation of explosives and vibration monitoring and analysis, along with strategies to ameliorate various environmental issues relating to quarrying. In attendance were personnel from the Mines and Geology Division of the Ministry of Land and Environment, the National Works Agency, the National Environmental and Planning Agency, and the Jamaica Defense Force. Additionally one participant was from Tobago. The training addressed such issues as:

Quarry Safety: The Quarry Safety portion of the class was focused on blasting related issues on mining but also was related to blasting practices in the construction industry. The adverse effects of blasting in terms of ground vibrations, airblast and flyrock can now be evaluated in a general sense by the students.

Sedimentation of Stream Channels: Based on field observations of current mining practices at a gypsum mine, a significant amount of erosion from unprotected slopes and subsequent sedimentation of stream channels is occurring near residential areas. In one instance, sedimentation filled the stream channel and caused flooding of the adjacent homes. The erosion is largely coming from mined areas where the slopes are unprotected and waste material is carelessly cast over the hillside. All the mines observed near Kingston are along the coast and sedimentation can easily reach the sea. Offshore impacts could not be observed during this visit.

Environmental Best Practices: During the Environmental Best Practices portion of the class, waste/refuse disposal was discussed as a means of minimizing sedimentation, storm water management as a means of minimizing flooding and revegetation of slopes to minimize erosion. Strategic placement of waste disposal areas and impoundments would result in a significant reduction of downstream and offshore sedimentation. By designing disposal areas, much of the storm water runoff and sedimentation can be contained on-site. Another observation is that better road construction and planning could help reduce erosion and storm water runoff.

Visual Impact: A strong interest was also expressed in reducing the visibility of the quarry activities to the public and tourists. Unfortunately the types of quarries currently operated in Jamaica are difficult to hide because they are excavating a hillside as opposed to excavating a pit. However a positive note to local planning is that the limestone quarries have been limited to only one watershed. This helps minimize the aerial extent of visual impact.

*Funding: USAID/Jamaica*

## Kenya

The Samburu Heartland is located just north of the equator in the rain-shadow of Mt. Kenya. It encompasses parts of Mt. Kenya and Aberdare National Parks, Samburu Game Reserve, plus extensive ranch and communal lands in Laikipia, Samburu and parts of Isiolo district. This is one of the few areas in Kenya where wildlife numbers outside parks have increased in recent years. The Heartland supports a diverse collection of wildlife that includes: Kenya's second largest population of elephants; predators (lions, cheetahs, hyenas, wild dogs); a suite of northern savanna specialist species like reticulated giraffe, ostrich, oryx and gerenuk, and endangered species such as Grevy's zebra and black rhino. DOI-ITAP assisted the African Wildlife Federation (AWF) in planning for management of this area.

### Key Results:

A team of two DOI-ITAP representatives joined African Wildlife Foundation staff and Kenyan government employees to conduct a 15-day assessment trip to the Samburu Heartland in Kenya to:

- Participate in a scoping exercise to determine the framework for a general management plan for Samburu Game Reserve and Buffalo Springs, an area adjoining the Samburu Game Reserve;
- Isolate key problems and issues, priority management objectives, and some proposed priority next steps;
- Provide guidance and advice on the planning process for developing management plans, and;
- Determine further training needs that might be addressed using DOI expertise.

The DOI-ITAP team:

- Developed a framework for the General Management Plan.
- Identified information needs for the planning process (along with assignments on obtaining the information).
- Created a schedule for plan development.
- Wrote an outreach plan to work with stakeholders.
- Developed a General Management Plan budget.
- Wrote draft statements of significance and purpose.

- Recommended opportunities for capacity building within the Reserve and the wider ecosystem through training and assignments.
- Identified critical issues related to management of Samburu Game Reserve.
- Began outreach with key stakeholders.
- Identified the core planning team to complete the General Management Plan.
- Identified basic needs -- including tools, equipment, and supplies -- urgently required for effective management of Samburu Game Reserve even before the plan, upon completion, identifies new opportunities and needs (June 2002).

*Funding: African Wildlife Foundation*

## **Mongolia**

Lake Hovsgol National Park, part of the Selenge River watershed and a sister lake to Lake Baikal in the Russian Far East, is one of Mongolia's particularly environmentally sensitive areas, and a site with growing tourism interest. This ancient tectonic lake in northern Mongolia is the largest fresh water lake in the country, covering 838,000 hectares. The Park boasts several endemic species, as well as a number of high profile wildlife species, including argali sheep, ibex and lynx. It's setting is stunning, bordered in the north by the Sayan mountains, in the west by mountains that rise up out of the Lake, and in the east by vast larch forests. The Park also contains two towns, Hatgal in the south and Hanck in the north, which function as part of the cultural heritage of the Park. Lake Hovsgol is also the home of an ancient shamanist site (or ovo) situated near a sacred fresh water spring.

At the time of project inception, the Park was inadequately managed. Park staff exhibited a low level of professionalism. The communities in and around the Park enjoyed few benefits from their proximity to the Park or from the tourists that visited the Park. Visitors to the Park were often unclear whether they were inside or outside the Park, and were given little information about the Park's resources. Park revenue was limited.

The U.S. Department of the Interior technical assistance program was designed to: build the capacity of Lake Hovsgol National Park staff to better manage the natural resources of the Park, enhance the visitor experience by improving the interpretation program, increase local community involvement in Park decisions and Park-related income generation, and improve staff resources by establishing a visitor fee program.

### **Key Results:**

#### **Policy Development**

- Produced fees and concessions recommendations for the Ministry
- Produced guidelines for implementing recommendations for fees and concessions;
- Worked continuously with local and national Government officials to promote sound Park management policies and practices
- Promoted professionalism throughout the ranks of park management

#### **Park Infrastructure**

- Established new Visitor Center;
- Made headquarters and Park hotel improvements
- Installed new solar electricity system

- Provided new computer system
- Established Park radio communication system
- Provided road equipment and maintenance training
- Set up Geographic Information System (GIS) with digitized maps
- Established appropriate signage throughout Park
- Developed Park information brochure

### **Staff Development**

- Trained managers, rangers, and specialists in all aspects of Park management
- Provided intensive training in land use planning processes
- Provided equipment for specialists and rangers
- Designed and produced new uniform for Hovsgol Park staff (now being used as a model for other parks in Mongolia)
- Conducted tour of U. S. National Parks.

### **Sustainable Revenue Generation for the Park**

- Made new Visitor Center key to introducing Park to tourists and community
- Established shop in Visitor Center for book and craft sales to support Center's operational costs
- Created new Park entrance facilities for fee collection
- Produced bilingual brochures for sale to visitors on Park wildlife and native plants
- Produced new book on Flowers of Northern Mongolia in Mongolian and English for sale to visitors

### **Park-implemented Community Development**

- Rebuilt numerous roads and bridges
- Developed community environmental education centers in all soums around the Park
- Improved school facilities in several soums

- Launched Park stewardship programs in all schools in and around Park (Junior Ranger programs)
- Established self-sustaining medical programs for isolated communities
- Trained local people in craft production and marketing
- Launched winter visitor center community programs

### **World Heritage Nomination**

- Worked with Ministries to prepare nomination -- “Hovsgol Lake and Nearby Shamanistic and Tsaatan Landscape”
- Raised awareness of uniqueness of Lake Hovsgol and the cultural landscape
- Added new Strictly Protected Areas to Hovsgol National Park (approx. 100,000 ha)
- Set aside new protected areas for Tsaatan grazing lands (approx. 100,000 ha)
- Encouraged addition of archaeological sites to World Heritage nomination —Uushigiin uver
- Nomination is being used as a model by the Ministry for Karakorum nomination

### **Water Quality Monitoring Program**

- Purchased new instruments for water chemistry laboratory
- Added ability to test for harmful bacteria in drinking water
- Established methods and protocol for studying water quality of tributary streams entering Lake
- Provided recommendations to Ministry for protection of watershed

*Funding: USAID/Mongolia*

## **Nepal**

Shey Phoksundo National Park is Nepal's largest national park covering 355,500 hectares. Located in the western part of the Himalayas, the Park is a biological crossroads of the Himalayan mountain range and the Tibetan plateau. The ecosystem is remarkable for its unique flora of over 1,500 species. Shey Phoksundo contains the highest number of endemic plant species in Nepal, including an abundance of important medicinal species. The Park's mammalian fauna includes the endangered snow leopard, the musk deer, and the blue sheep. Phoksundo Lake, the deepest lake in the Himalayan range, lies in the heart of the Park.

Shey Phoksundo National Park is not only rich in biological diversity but also has a unique cultural heritage. It remains one of the last pockets of the traditional Tibetan culture in the Himalayas. Moreover, the Bonpo religion, a precursor to Buddhism, is practiced among the people of the Park. Shey Phoksundo is considered the only protected area in the world to contain this unique cultural heritage. The Park contains not only one of the highest permanent settlements of highland agriculture/pastoralism, but also one of the oldest.

Shey Phoksundo was established as a Park in 1984 and opened to tourism in 1989. It is a remote protected area, considered the most pristine in the country. At the time of project inception, however, the Park faced threats from unregulated tourism development and unsustainable resource use patterns, driven in part by increasing numbers of porters and outside guides.

The U.S. Department of the Interior technical assistance program was launched in Shey Phoksundo National Park in 1997 at the request of Nepal's Department of National Parks and Wildlife Conservation. The program was designed to: strengthen environmentally sensitive tourism development, bolster protected area management, build environmental interpretation skills, and encourage sound community-based resource management in and around the Park.

### **Key Results:**

#### **Improvement of Park-community Relations**

- Launched Junior Ranger programs in all schools in and around Park
- Formed an organization of businesses associated with ecotourism in Dunai
- Increased revenue of local businesses by encouraging a wider variety of trekker supplies and products
- Developed visitor service guides for ecotourism in and around the Park -- Dunai Visitor Services Guide and a Suligad to Rigmo Village Visitor Services Guide
- Assisted the Government of Nepal submit World Heritage nomination

Shey Phoksundo National Park is home to more than 3,500 people, with the surrounding Dolpa district having a population of approximately 25,000. Critical to the survival of the Park is the

support of the local community. The technical assistance program focused on outreach and environmental education, as well as income generation through ecotourism.

DOI-ITAP worked with the International Snow Leopard Trust to develop an interpretive web-of-life poster and related hands-on activities to educate students about the Park's resources. A series of teacher-training sessions presented to students, Park staff, and community members helped to incorporate these materials into their school curriculum. Park staff and schools were brought together for a demonstration of the "Parks as Classroom" concept and the Leave No Trace Program which led to the development of the Shey Phoksundo Junior Ranger Program.

Junior Ranger Programs were launched in all the local schools. A local Dolpa teacher was trained in national park management and environmental education at Lassen Volcanic National Park, and subsequently tasked with institutionalizing the Junior Ranger Program for Shey Phoksundo National Park, adapted for local conditions and resource issues. DOI-ITAP provided bird books and binoculars to the local schools for Park-related field studies. The establishment of the Junior Ranger Program in the local schools is the first project of its kind in Nepal.

It is important to note that the Junior Ranger Program that DOI-ITAP started in and around Shey Phokundo continues to thrive and expand today – despite Maoist activities in the area. The success of the program is attributed to the fact that DOI-ITAP worked to instill:

- Strong underlying ownership among local households and teachers for the program
- Ongoing leadership and implementation entirely by locally based staff or teachers rather than persons from outside the area
- Two-pronged goals of conservation education and betterment of local livelihoods

DOI-ITAP trained more than 250 community representatives, civic, religious and business leaders, teachers and natural resource professionals on the concepts of community development in association with protected areas. Topics included understanding and protecting the natural values of the area, interrelations of cultural and natural resources, protection of sacred sites and the environment, business opportunities and best development practices.

A cornerstone of the DOI-ITAP assistance was a focus on Park-related income generation. DOI-ITAP trained more than 60 local porters -- both men and women -- in proper techniques for working in a professional manner with foreign trekkers, park regulations, sanitation, and English language skills. Local guides were trained in natural and cultural resource interpretive techniques.

To ensure environmentally sensitive tourism development and assist the Park and communities to prepare for increased visitation, meetings were held with business and community leaders to plan for ecotourism. Local tourism committees were formed to promote local crafts, and develop visitor orientation maps and visitor service guides. DOI-ITAP assisted in the establishment of an ecotourism committee in Dunai -- the Park's gateway community. The committee is made up of local business and community leaders and promotes local businesses that serve Park visitors.

A visitor use survey was developed for the Park to gain information from visitors to help guide management decisions. As a result of the information gained from Park visitors, local people began to clean up their communities and restore and protect the cultural sites visited by tourists.

Recognizing the unique natural and cultural resources of this site, DOI-ITAP assisted the Government of Nepal prepare a World Heritage nomination for Shey Phoksundo. Through the process of nomination preparation, the program raised awareness within the national and local governments and the local communities about the unique nature of Shey Phoksundo's resources.

### **Increased Professionalism of the Park Staff**

- Trained Park staff in all aspects of Park management
- Conducted tour of U. S. National Parks for key professionals
- Provided equipment for Park staff

At the onset of the program, Park staff were poorly trained, and exhibited low motivation and pride in their jobs. Over the course of the four-year program, Park staff interacted regularly with the DOI-ITAP team and learned about U.S. standards of ethics, professionalism, and dedication to resource management. The DOI-ITAP team modeled a high standard of professionalism throughout.

Over the course of the program, twenty-nine park rangers, game scouts and nature guides were trained in all aspects of park management, including techniques to inventory and monitor wildlife, endangered species protection, the administration of national parks, law enforcement, and developing effective relations with surrounding communities. DOI-ITAP also conducted intensive training in interpretation, visitor services, outreach and environmental education to Park staff. The Park staff was provided binoculars, bird books, mammal guides, and bird and mammal checklists to enable them to enhance their job performance. DOI-ITAP also helped develop wildlife monitoring reporting forms for use by Park staff.

DOI-ITAP also sponsored a study tour to U.S. national parks and wildlife refuges for the Shey Phoksundo National Park warden and one of his rangers, a Park school director, and a World Wildlife Fund representative. The study tour focused on park management, and generated a tremendous amount of motivation and creativity for the Park team. The tour enabled participants to generate new ideas for the management of Shey Phoksundo upon their return to Nepal.

### **New and Improved Park-related Infrastructure**

- Revamped Palam Visitor Center/Museum
- Developed a Phoksundo Lake Self-Guided Nature Trail
- Sign placed at the Park entrance in Dunai

The infrastructure of the Park is quite rudimentary. At the onset of the program, the Park's only visitor center/museum provided only minimal information to visitors. The few exhibits it contained were outdated and in need of repair. DOI-ITAP trained Park staff in museum exhibit design and visitor orientation and helped Park staff completely reorganize the center in a professional manner, with cultural and natural history exhibits now more appropriately displayed.

DOI-ITAP also worked with Park staff, local villagers and religious leaders to develop the Park's first self-guided nature trail and brochure at Phoksundo Lake. With technical assistance from DOI-ITAP, a step-by-step interpretation-planning process was followed to develop this trail and brochure.

Signage at the Park was minimal. Visitors to the Park were not aware when they had entered Park boundaries. The program helped Park staff place a sign at the Park entrance in Dunai.

Finally, DOI-ITAP assisted in the design of a new public campground in Dunai. The campground is intended for trekkers.

### **New Park Interpretive Materials**

- Produced a Checklist of the Mammals of Shey Phoksundo National Park
- Produced a Checklist of Birds of Shey Phoksundo National Park
- Completed a new base map of Shey Phoksundo National Park
- Completed a visitor services orientation map
- Produced a brochure for the self-guided nature trail

The Park did not have any interpretive materials at the onset of the program. DOI-ITAP helped Park staff produce a series of interpretive materials for the Park over the course of the four-year program.

*Funding: USAID/Nepal*

## **Philippines – Coral Reef Training**

DOI-ITAP provided training in coral reef and marine protected area management to resource professionals in East Asia. The training complements the World Wildlife Fund program in the Sulu-Sulawesi Eco-Region. The Sulu Sea contains the most biologically diverse coral resource in the world.

### **Key Results:**

- The training greatly improved the capacities of the local Bantay Dagat. In Mabini and Tingloy, there are no more commercial vessels encroaching in the municipal waters. As a result, the municipal fishermen are able to catch more fish (both in terms of quantity and species of fish) and do not need to fish too far.
- Two of the DOI-ITAP-trained local actors have been very instrumental in advancing marine enforcement in Donsol, Sorsogon, Philippines.
- Due to the high visibility and applicability of the DOI-ITAP training, twenty-two Philippine officers were selected to travel to the U.S. and successfully completed a two week “Small Craft Marine Law Enforcement Training Program” conducted at the Federal Law Enforcement Training Center in Brunswick, Georgia. This training was sponsored by the U.S. State Department.

*Funding: EAPEI*

## Russia

DOI-ITAP provided technical assistance to regional and national Russian conservation agencies on the conservation of endangered species such as the Siberian (Amur) tiger and their critical habitat. Specifically, DOI-ITAP:

- Provided training on CITES implementation. The emphasis was on inspections techniques, permit processing procedures, and the role of the Scientific Authority in support of permit issuance.
- Provided training on CITES implementation and biological identification to 20 regional deputy chiefs of the Russian Far East Customs Committee in Vladivostok, Russia.
- Produced a manual on CITES implementation and biological identification of wildlife species in the Russian Far East, including a brief overview of CITES, description of how wildlife parts are smuggled out of the Russian Far East, and identification tips and illustrations of relevant endangered species of the region.
- Supported a Conservation Education workshop for 15 Russian federal reserves staff , including reserve management staff from 6 Russian Far East zapovedniks.
- Provided federal Russian anti-poaching rangers of the Amba patrol with a five-day, first-of-its-kind, Seminar on Wildlife Law Enforcement, at Ussurisk Zapovednik.
- Delivered supplies to the Primorskiy Krai-based Amba Patrol, including winter hunting boots, night vision binoculars, 35mm film, ranger berets, rechargeable batteries, battery rechargers, Leatherman tools, camcorder batteries, microcassette recorders, blank microcassette tapes, and mini-flashlights.
- Produced a joint report with the Russian State Committee on Environmental Protection and Global Survival Network to the June 1997 CITES Conference of Parties on the positive impact of joint US and Russian, government and non-governmental, anti-poaching efforts in the conservation of the Siberian tiger.
- Produced a poster depicting the collaborative US-Russian, governmental and non-governmental efforts to protect the Siberian tiger, with the caption, "We Can Only Save the Tiger Together," in Russian, English, Chinese, Japanese and Korean.
- Provided training at a wildlife law enforcement seminar for nearly 100 Russian Federal anti-poaching patrol rangers, protected area managers and rangers, Customs officials, regional environmental prosecutors, environmental lawyers and other wildlife officials.

*Funding: USAID/Global Bureau*

## **Russia – Kamchatka**

DOI-ITAP worked with the United Nations Development Program (UNDP) to provide technical assistance to selected protected areas in the Kamchatka Peninsula, Russia. The Kamchatka Peninsula is globally recognized for its significant biodiversity resources and extensive intact wilderness ecosystems. The 1,500 km long peninsula is home to over 2,000 species of plants and animals, including numerous species of salmon, trout and char, rare Steller sea eagles, endangered Steller sea lions, and approximately 10,000 Kamchatka brown bears (the largest bear known). Additionally, the region hosts a wealth of geothermal wonders, including 29 active volcanoes in a volcanic ‘spine’ that includes Kluchevsky Volcano, the largest active volcano in Eurasia and one of the largest in the world.

Historically, Kamchatka was protected by its remoteness, rugged landscape, and later by its strategic military importance. During the past 10 years of economic reform and societal upheaval, however, the situation has worsened dramatically. With local populations experiencing economic hardships, and protected area budgets sharply declining, there are significant and increasing threats to Kamchatka's biodiversity and protected areas. Now that the region is more accessible and open to visitation, it is increasingly threatened by organized poaching, uncontrolled access and unmanaged uses, and unsustainable resource exploitation by local populations.

UNDP is engaging in a multi-million dollar joint effort to provide training and technical assistance to Kamchatka to address these problems. In spring 2003, UNDP developed a needs assessment based on consultations and a workshop with stakeholders. Among the recommendations was to provide training in concessions contracting for protected areas. DOI-ITAP provided this training.

*Funding: UNDP*

## **South Africa**

### **Richtersveld National Park**

Richtersveld National Park (162,445 hectares) is South Africa's newest park and is the only park in South Africa established through a contractual agreement with local communities. The Park is located within one of the last areas in South Africa where traditional, semi-nomadic pastoralism occurs. Richtersveld National Park is rich in species of succulent plants found nowhere else in the world. These plants are at risk from a variety of factors, including livestock grazing. The Nama people work in partnership with the National Parks Board to maintain traditional pastoralism and promote and maintain the unique biodiversity in the Park. Richtersveld National Park has been proposed as a World Heritage Site. The project was a high priority of the Conservation, Environment and Water Committee of the Gore-Mbeki Commission. DOI-ITAP provided technical assistance on livestock grazing management for the Richtersveld Park staff, National Parks Research Unit scientists, scientists from the University of Cape Town, the Western Cape University, and the National Botanical Institute. In addition, South Africa National Parks Board Scientific Officer in charge of this project visited the United States and learned about the Bureau of Land Management's policies and management practices regarding rangelands, livestock and vegetation monitoring, remote sensing, and GIS capabilities. Finally, DOI-ITAP provided equipment to help set up a Geographic Information System and a biological monitoring system in the Park.

*Funding: USAID/Global Bureau*

### **Working for Water**

DOI-ITAP provided assistance to the National Parks Board of South Africa to develop the Working for Water Project at Table Mountain, Capetown, South Africa. The project promoted methods of curbing the invasion of non-indigenous species into the Table Mountain area of Capetown. It is estimated that 600 jobs were created by this project. The project is a followup to the U.S. - South Africa BiNational Commission's Committee on Conservation, Environment and Water Committee. An independent, outside evaluation found that: The project enabled the Working for Water Program to clear invasive alien vegetation, thereby improving the hydrology and biodiversity of a globally significant conservation area. The project helped pioneer a new model for development--one in which participants have been left empowered to look for work, start a business of their own, or become independent contractors.

*Funding: USAID/Office of Southern Africa Affairs*

### **Southern Africa Environment Page**

DOI-ITAP provided technical assistance in launching a Southern Africa Environment Page on the World Wide Web. The page provides extensive and current information on developments in South African environmental law and policy in a format useful to environmental nongovernmental organizations and community-based organizations, provincial and local

officials and public servants, university and secondary school teachers and students, and the general public.

*Funding: USAID/Global Bureau*

### **Water Convention**

Seconded DOI-ITAP personnel helped the South African Department of Water and Forestry Affairs develop a strategy to move forward major initiatives in water conservation, demand management, and water law with the goal of achieving more equitable distribution of water. In September 1998, the new South African Water Law was established. In 1997, DOI-ITAP supported a workshop on best management practices on water conservation.

*Funding: USAID/Africa Bureau*

## **Southern Africa**

In the African region called "Four Corners," four countries meet near the spectacular Victoria Falls: Zambia, Zimbabwe, Botswana, and Namibia. The Zambezi River serves all four countries. A series of parks and game reserves dot the landscape, yet the corridors for migrating wildlife to move between them are not secure. The economic potential of this area is enormous, as nearly all visitors to southern Africa visit Victoria Falls. With four countries and four sets of laws and policies, coordination among the four countries for management of the watershed and the wildlife is needed. Fostering this coordination and developing a coherent circuit for tourists as well as corridors for wildlife are priorities under the African Wildlife Federation's Four Corners initiative funded by USAID/Regional Center for Southern Africa (RCSA). DOI-ITAP assessed the project and provided recommendations to address project needs.

# Uganda

## Mgahinga & Bwindi National Parks

Mgahinga and Bwindi National Parks, in southwestern Uganda, are home to the remaining 600 or so mountain gorillas left in the world. The mountain gorillas are the rarest of the three subspecies of gorillas. In addition to the gorillas, both parks have a surprising variety of animal and plant life and both offer some excellent hiking in spectacular scenery. Mgahinga is the smaller of the two parks but is also part of a much larger ecosystem, the Virunga Conservation Area which includes adjacent parklands in Rwanda and the Congo. Bwindi is about ten times the size of Mgahinga and is a dense, luxuriant forest covering wet rugged hills cut into steep ravines. Both parks are pockets of wilderness surrounded by densely populated farmlands. Most conservation problems are a result of conflicts over the use of resources -- the community and wildland interface. Seeing gorillas in the wild is the primary attraction that draws international tourists to these two parks.

DOI was asked by African Wildlife Foundation (AWF) to provide selected technical assistance on their projects in Mgahinga and Bwindi National Parks.

### Key Results:

- A DOI representative worked with the staff of the International Gorilla Conservation Programme as well as the staff of Mgahinga Gorilla National Park (MGNP) to refine development concepts for a new visitor center and exhibits at MGNP; and help to facilitate an African Wildlife Foundation (AWF)-sponsored workshop on structures design and interpretation for Mgahinga Gorilla National Park.
- DOI fielded a team of fire management experts to train Mgahinga and Bwindi National Park staff in fire suppression techniques, and to help develop a basic fire management plan.

*Funding: AWF*

# Uganda

## Queen Elizabeth Nacional Park

Queen Elizabeth National Park -- an international Biosphere Reserve -- is one of Uganda's oldest and most visited national parks. It encompasses a wide range of habitats, including forest, grassland, wooded savanna, swamp, volcanic craters, and lakeshore. The Park contains some 545 bird species, 65 species of mammals, including elephants, and more than 1,000 plant species. Queen Elizabeth also contains a wetland to the north of Lake George which is protected by the Ramsar Convention. The park covers 198,000 hectares.

DOI-ITAP worked to improve Queen Elizabeth National Park visitor services and to increase revenue generation through tourism. It trained and equipped field personnel within Uganda Wildlife Authority (UWA) and Peace Corps Volunteers to engage in park interpretation and to conduct basic biological inventories and monitor user impacts. DOI-ITAP also worked to promote conservation education programs in targeted communities near selected protected areas, including community-level initiatives which encouraged park-compatible economic development adjacent to Queen Elizabeth National Park.

### Key Results:

- A DOI-ITAP-developed visitor satisfaction survey was adopted by the Government of Uganda for use in all its parks throughout the country. This was the first time a standardized questionnaire was used throughout Uganda's national parks.
- DOI-ITAP developed minimum standards for successful nature interpretation presentations for visitors. These were the first such standards to be adopted for UWA staff.
- DOI-ITAP provided the first formal training in biological inventory and monitoring that many UWA trainees had ever received. In addition, it was the first time the principles of science, mathematics, and activity planning had ever been integrated for presentation to UWA staff.
- DOI-ITAP provided intensive, practical, hands-on training in nature interpretation to key UWA staff. Demonstrable improvement was shown in trainee ability and confidence in working with the public. Ugandan trainees began teaching interpretive skills to colleagues and subordinates within UWA.

*Funding: USAID/Global*